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ON THE SYMPTOMS AND POST-MORTEM APPEARANCES IN A CASE OF SUSPECTED POISONING BY OXALIC ACID.

Read before the Society for the Promotion of the Sciences connected with Medicine, by Dr. JAMES C. WHITE, November 2d, 1869.

History.—On the 16th of January, 1869, Mrs. X., a large woman in middle life, fell and broke the head of her femur within the capsule. She was placed on her bed and never rose from it again. She remained comfortable except upon motion of the leg until the 26th. Upon that day she complained of some heat in the stomach, and in the evening an enema was given, as on other occasions during her illness, which was followed by a discharge of hard fæces. Later in the evening, at ten o'clock, she became uneasy and felt nausea, and at twelve she vomited, and again at one, at four, and at six o'clock, the morning of the 27th. The quantity each time was said to be about a teacupful, and was liquid. It was said to have stained the clothes upon which it fell yellowish. During the day (the 26th) she had eaten a custard and drank tea, broth, and at least a tumbler of lemonade. She said during the night each time she vomited that she felt very bad, and once as if she were going to die. She was also very thirsty, and slept scarcely at all.

On the 27th, the second day, she was seen during the forenoon by her physician, who found her in a very low and feeble condition, with a pulse of 130 and respiration at 25 to 30. Her mind was dull, but yet conscious. She seemed to him to be in a state of collapse or partial paralysis. Her skin was very red, and her mouth, throat and lips presented the same appearance, that of lividity or a lilac color. The skin was nevertheless cold and clammy. Stimulants were given. At three o'clock, P.M., her pulse was still feebler. At ten o'clock she was again visited, and her pulse was at 160. There was no response to the stimulants. He gave her an opiate without visible effect, magnesia and carbonate of ammonia. During this day there was more or less flow of fluid from the rectum, soiling the bed, but there was no purging at any time. Burning at the epigastrium was also spoken of early in the day. During the night she complained of violent headache, and was still thirsty.

At eight o'clock on the following morning, the 28th, the third day, Dr. —— found no change except a gradual sinking. There was a complete absence of all voluntary power, and the insensibility became deeper and deeper throughout the day. There was no longer any complaint. The pulse was a mere thread and high. She died at four o'clock in the afternoon, forty hours after the vomiting began. Such is the clinical history of the case as minutely as can be obtained.

SECTION.

Post-mortem Appearances.—Twenty-four hours after death the following organs were removed from the body and brought to me for examination:—the stomach and œsophagus, intestinal canal, spleen, kidneys, liver, and part of the pancreas. Subsequently the brain was examined and found to be healthy; the fracture of the femur was also found free from all traces of inflammation. The organs were examined by me forty-eight hours after death, and presented the followiug appearances:—

The *stomach*, which with six inches of œsophagus attached, was tied at both extremities, contained ten or twelve ounces of greyish fluid of the consistence of gruel, with an acid smell and reaction. It was marked externally by dark streaks corresponding to the position of the bloodvessels, and by large stains of a scorched appearance near the œsophagus. Within, its lining-membrane for an inch or more surrounding the œsophageal opening was of the same black color as that tube, and the bloodvessels in the depending portions filled with black blood were visible through it. Elsewhere and generally the mucous membrane was of its natural color or paler

than usual. The structure of the mucous membrane and other tissues was unchanged, except in the lower portions, where it was soft and thin (probably a cadaveric change). There was more or less mucus attached to its inner surface.

The *œsophagus* exteriorly was of a uniform deep slate color. Its interior surface was stained of a deep black, the same color penetrating in parts to and through the muscular tissue. The lining-membrane was not materially softened, nor easily separated from the tissues beneath.

The *intestinal canal* was filled with bile in the upper portion. In the ileum, near the colon, and in the upper large intestine there was considerable black fæcal matter of the consistence of marmalade. Below this and along the rectum were fæcal masses of natural consistence. There was nothing unnatural in the condition of the intestinal tract besides the usual cadaveric softening of the mucous membrane and reddened patches.

All the *other organs* were apparently healthy; the blood contained within them being generally bright red.

Analysis of Organs and Contents.

An analysis of all these organs and their contents in whole or part, conducted by the most delicate chemical processes known, but which it is not necessary for the purpose of this paper to describe, failed to show the presence of a trace of any mineral or alkaloid poison. In the examination for the latter the physiological tests were also employed, and with the same negative result.

In the absence, then, of any positive proof by analysis that poison was administered in this case, what is there in its history or the *post-mortem* appearances as just given to indicate the cause of death? May they be explained by the possible existence of any disease with which we are acquainted? It is well known that there are certain cases in which it is impossible to determine without the aid of analysis whether death is produced by natural causes or by poison. In this instance we have the symptoms of an irritation or inflammation of the alimentary canal, and also others which might be caused by or occur in the course of various affections, but taken as a whole they point much more strongly to the action of a poison than of any known disease. The pain and heat in the stomach, thirst and vomiting, are signs of irritant poisoning, but might otherwise occur; the collapse, stupor and partial paralysis are indications of narcotic poisoning, and yet might be produced by natural causes. Taken together, the two sets of symptoms cannot be referred to any one known disease, but they are such as follow the administration of so-called irritant narcotic poisons. If now we interpret these symptoms by the light furnished by the *post-mortem* appearances, no doubt as to their cause can longer exist. There is no disease which can produce such a blackening of the tissues of the œsophagus and stomach as was found in this case and is still preserved in the specimen exhibited. The occurrence of black spots within the stomach cannot be looked upon as an infallible sign of poisoning, as Christison was inclined to believe. Some degree of dark brown or even black coloring as the result of acute idiopathic softening, and of changes after death, caused by the action of the acid of the gastric juice upon the blood either within its vessels or extravasated, has been observed. Such appearances, however, are more diffused and general in their distribution, not in the form of distinct streaks, spots, or points. Melanosis, too, may give rise to black discoloration, but its histological elements are easy of recognition. In this case the intense black color penetrated in many parts the muscular coat of the œsophagus and gave to the whole tube externally a dark slate color. The interior of the stomach surrounding the œsophageal opening presented the same appearances, while the corresponding portion exteriorly, it will be remembered, was marked by large stains, as if scorched.

If, then, these appearances are such as could not have been produced by any natural disease, are they also sufficiently characteristic to indicate the particular poison which did produce them? Many of the irritant poisons produce more or less blackening of the tissues of the alimentary canal. The concentrated alkalies and mineral acids act in this way, but they likewise cause great disorganization and destruction of the parts with which they come in contact, so that they could not have been the agent used in this case. Oxalic acid is loosely and incidentally spoken of in some works as occasionally producing such discoloration, but to its action upon the stomach I shall return. Phosphorus produces ecchymotic patches at times. Corrosive sublimate and other mercurial salts stain the tissues of the alimentary tract, as is well known, a dark slate color, but they cause at the same time great inflammation, and are always easily recognized by chemical

tests in the parts thus colored. They therefore must be excluded from the case. The same may be said of the salts of silver, which chemical analysis could not fail to detect. The vegetable irritants, too, will sometimes produce deep and extensive blackening of the lining membrane of the stomach, at least, but in such cases there is a proportionate intensity of inflammation accompanying with corresponding symptoms during life and characteristic appearances after death. The substance employed could not have been one of them.

Fortunately the organs were not the only materials furnished me for examination. Two pails had also been brought for analysis. No. 1 contained a sheet and some pieces of cotton cloth in a moist condition, which had been taken from a large tub of water in which they had been soaking several days. No. 2 contained towels, pieces of cloth, a mustard poultice, a cotton batten fomentation and a fomentation of herbs (wormwood) in a flannel bag. The sheet and towels had been used on the bed and about the person of the deceased during the last days of her illness, and were stained apparently by intestinal discharges or vomiting. These stains were examined for the presence of mineral poisons with negative results. Small portions were also tested for oxalic acid, but no perceptible quantity was obtained.

March 9th.—The water in pail No. 2, which had been frozen solid when brought, and in which the towels, fomentations, &c., had been soaking, some two quarts in quantity, was filtered and subsequently condensed by evaporation. It was neutral. Hydrochloric acid was added to it and a solution of sulphate of lime. It was then neutralized by ammonia and allowed to stand over night, when it was found to contain a great number of very large and beautifully formed octahedral crystals of oxalate of lime. These crystals gave all the characteristic reactions of oxalic acid. The filter through which the water had run was examined chemically, but contained no oxalate of lime, showing that the oxalic acid in the pail was present as some soluble oxalate in the water, and not as oxalate of lime or magnesia.

The entire sheet from pail No. 1, said to have been taken from the tub of water, was then examined in a similar way, and from it a very little oxalic acid was also obtained in the form of some soluble oxalate. The amount of oxalic acid extracted in this way from the water in pail No. 2 and from the sheet and towels was from one to two grains.

It will be seen, therefore, that there was obtained from the bed-clothing and towels stained by discharges from the body of the deceased a small quantity of oxalic acid. These articles had been soaking in a tub of water, and must have given up to that the greater part of the acid they at first contained when they were removed from it. The quantity left behind in the tub was not ascertained. Moreover, these articles were not those which received the first discharges of the deceased, as the bed-clothing used during the first night of the illness, when the only vomiting occurred, was removed and washed. The amount of oxalic acid obtained by analysis, therefore, in no way represents the quantity voided during life. (The herbs used in the fomentation found in the pail contained no oxalic acid.)

That oxalic acid was not found in the analysis of the stomach and contents and in the other organs in no way weakens the theory that the deceased died from its effects. Taylor says the residuary quantity in the stomach is generally very small. A case is reported where death occurred only two hours after ℥iss. was taken, and only thirteen grains were found. Another in the *Medical Times and Gazette*, April 25th, 1868:—a person took three-fourths of an ounce, and died in ten minutes. The tissues of the stomach contained only two grains, its contents none at all. The *Dublin Quarterly*, vol. xxxiv., p. 220, gives a case in which the patient survived two and a half days, and not a trace could be found. Christison says none may be found in the stomach or its contents, even if no vomiting occurs, if the patient survives any length of time. These instances are sufficient to show that the failure to find oxalic acid after death, especially in such a case as this, does not at all invalidate the theory of its administration.

How closely then do the symptoms and *post-mortem* appearances recorded in this case agree with those attributed to the action of oxalic acid in works on toxicology? Poisoning by this substance in Germany and France is so extremely rare that the accounts of it in the works published in those countries are almost wholly derived from English authorities. In this country it has seldom been employed as an agent in criminal poisoning, and but little attention accordingly has been given to its effects upon the system. Its *action* is peculiar; at times producing all the symptoms

of the most powerful corrosive, at others causing almost instant death, like the most deadly narcotics. Its first and local effect is to be explained by its chemical action on the gelatinous structure, according to Van Hasselt, dissolving these tissues easily, and causing softening of the muscles and nerves. Its later and constitutional action is mainly sympathetic. Even in a very dilute condition, by which its local effect is entirely prevented, it acts as a powerful poison on the nervous centres, the heart, spinal cord, and brain, according to this author, by which the rapidity of its action in some cases is explained. According to Orfila, "the more dilute, the more powerful its action." In very large doses, according to Christison, in animals it acts upon the heart, causing paralysis cordis, in medium doses upon the spinal cord, giving rise to convulsions and asphyxia, while with the smallest fatal doses the brain is principally affected, causing stupor. Nearly all our knowledge of its physiological action is limited to Christison's observations made forty years ago.

It may be as well, while speaking of its action, to refer to the quantity required to produce death. ℥i. has killed a boy of 16 years, and this is the smallest fatal dose on record. Three, four and six drachms have also killed, the first named quantity a woman of 28 in an hour; but recovery has taken place after ℥ss. and ℥i., its action of course depending upon the amount retained and absorbed.

Comparison of Symptoms.

Taste.—Oxalic acid is extremely sour, and this property, together with the great burning sensation it produces in the mouth, it might be thought, would prevent its employment in criminal poisoning. In this case it will be remembered no complaint at all was made, and no suspicions apparently excited in the deceased that she had taken anything wrong. She drank a tumbler of lemonade during the day; could this have contained and disguised the presence of a fatal dose of oxalic acid? To determine these points, ℥ss. of the acid was put into a tumbler of water (six ounces). It readily dissolved. This, sweetened with as much sugar as the solution easily took up while cold, gave a taste quite acid, like citric acid lemonade, putting the teeth on edge, but in no way unpleasant, and producing no smarting or burning. Held in the mouth in considerable quantity and for a minute, it caused a slight burning sensation, and a faint whitening of the tips of the lingual papillæ. It was such a liquid as might be easily mistaken and swallowed for very sour lemonade. In such a way a fatal dose of the acid could be easily given.

Taking the symptoms in the order of their occurrence, the first complaint was of some heat at the epigastrium in the afternoon, which increased during the evening, and was accompanied by great pain in the same region during the night. These symptoms ceased twenty-four hours before death. They are common to all irritant poisons, and differ from the ordinary effects of oxalic acid in their mildness and the tardiness of their approach. The same may be said of the *vomiting* which, it will be remembered, began on Tuesday night at 12 o'clock, and was preceded by two or three hours' *nausea*. The lemonade was slowly taken probably between noon and the beginning of the nausea in the evening. Emesis occurred four times only between midnight and 7 o'clock on the following morning. There was nothing distinctive in its appearance, about a cupful of yellowish liquid each time. *Vomiting* takes place after the administration of oxalic acid generally either immediately or in a few minutes, and its color is greenish, brown, or black, consisting of mucus and altered blood. Often the vomiting is incessant until death. In some cases little or none has taken place; in one, reported by Christison, it was delayed seven hours after taking ℥ss. in five ounces of water. The more dilute, the longer is this symptom delayed.

There was great *thirst* in this case, as is common.

Purging did not occur at all in this case, although Dr. —— thought there were several small watery dejections on the second day. During the night of the vomiting there were certainly several discharges of hard fæcal matter, and the same was found in the rectum after death. It is a symptom recorded as sometimes present in the later stages, if life is prolonged.

Abdominal tenderness is generally a prominent symptom, accompanied by great pain; here there was some degree of pain complained of during the first night, but no tenderness was produced on pressure over the abdomen at any time. In a case reported by Dr. C. T. Jackson an ounce of the crystals was taken, and death resulted in ten days, but there was at no time any tenderness.

The *tongue and lips* are often swollen and sometimes covered with white patches; in this case both were of a liquid or lilac color. The local action upon the mucous membrane

of these parts varies, of course, according to the method of administration.

The *skin* is described by observers as livid and cold, and covered with a clammy perspiration, as cyanotic even in rapidly fatal cases; in this instance it was suffused and of a livid redness, also cold and clammy.

The state of the *pupils* is not alluded to in any toxicological work; they were here not dilated, but sluggish.

The *respiration* in poisoning, so far as the books allude to it, is generally deep and slow (Tardieu and Taylor); in this case it was 30 in the minute on the second day. Wormley, however, says the respiration is hurried, and Guy makes the same statement.

The *pulse*, too, differs in this case remarkably from the accounts of authors. On the second day it was reported as small, and from 120 to 140 per minute; on the next day 160 and scarcely perceptible. Tardieu describes the pulse as small, irregular, and scarcely perceptible; Van Hasselt, as slow and scarcely perceptible; Wormley, as small, fluttering and feeble; Taylor, as small, irregular, and scarcely perceptible; Werber, in his Handbook just published, as small and slow; Falck, as weak and scarcely perceptible; Christison says circulation is depressed and pulse always very feeble; Oesterlen, as weak, slow, and imperceptible some hours before death; Orfila says nothing of the pulse, and Caspar makes no mention of it; Briand and Chaudè, as feeble and imperceptible. It will be noticed that some of the leading toxicologists fail to speak of the rate of the heart's action, although all agree with regard to its feebleness. Two of them only speak distinctly, and they say that it is slow. This illustrates how much remains to be done in the way of accurate observation, even with some of the most common poisons. In the *Lancet* of February, 1842, there is a case reported in which it is stated that there was no failure of the pulse. Christison also mentions that in one of his experiments, "contrary to the general fact, the pulsation of the heart in a dog was so strong as to be audible at a distance of several yards." Guy, however, in his forensic medicine, unlike all other writers, makes the statement that the pulse is small and frequent.

The state of the *nervous system* is a peculiar feature in poisoning by oxalic acid. The patient is described as affected by a sort of stupor and semi-unconsciousness from which he is with difficulty roused, and by lassitude and numbness of the limbs, approaching paralysis. In some cases there are cramps and convulsions. In this instance the mind was recorded as dull, but not incoherent, and the patient as in a state of partial paralysis at first, with complete absence of all voluntary power and increasing insensibility on the day of her death.

The most prominent symptoms which generally occur and were entirely *absent* in this case, and which have not yet been alluded to, are *spasms* and *dysphagia*. According to Tardieu, all symptoms but those of vomiting and collapse may be absent.

The *fatal period* varies greatly with the amount and concentration of the dose. An ounce has killed in ten and in thirty minutes; possibly once in three minutes. Where more than half an ounce has been taken, it is generally fatal within an hour. Persons have lived, however, after large doses for five, seven, and even twenty days. In this case, death took place forty hours after the vomiting began; just two days, probably, after the poison was first given.

A comparison of these symptoms, then, with those which have been recorded as previously produced by oxalic acid, leads me to the conclusion that, with the single exception of the pulse, they correspond closely to the effects produced by this substance given in a dilute condition, or through an interval of several hours. How far this apparent exception is an exception to the real toxicological action of oxalic acid is a matter, I think, of uncertainty. Allowing its full validity, I have no doubt that oxalic acid was taken by the deceased in the manner above alluded to, and that the symptoms in the case were wholly due to its presence in the economy.

Let us now see how the *post-mortem appearances* agree with those known to be produced by this poison. The only change worthy of note in the organs brought to me for examination, as will be remembered, was the extraordinary condition of the œsophagus and stomach. How far up the former this color extended is not known, as the fauces and tongue were not removed nor examined after death. The six inches seen were uniformly affected. It is only to these organs, therefore, that my comparison will extend. Taylor describes the mucous lining of the stomach after death as "pale and softened, without always presenting marks of inflammation or abrasion, if death has taken place rapidly. This membrane is white, soft, and brittle, easily raised by the scalpel, and presents the appearance which we might suppose it would assume after having been for some

time boiled in water. The small vessels are seen ramifying over the surface, filled with dark-colored blood, apparently solidified within them. The lining membrane of the gullet presents the same characters." Nearly the same description may be found in most works on Toxicology. It in no way, however, resembles the condition of these organs in this case, and would seem, if applicable without exception, to exclude oxalic acid as the agent in it altogether. A more general examination of the literature than Taylor has made will show, however, that oxalic acid is as remarkable in the variation of the appearances it may produce after death as in its physiological phenomena. It has caused death without giving rise to any morbid appearances. Its action, as we have seen, when diluted, is directed more to the nervous system than towards local irritation. We do find, however, allusion in some toxicological works to a blackening of the tissues. Most writers mention the black appearance of the blood within the vessels of the stomach, and Christison states that after concentrated doses the "stomach is found to contain black extravasated blood, exactly like blood acted on by oxalic acid out of the body;" "the inner coat shows streaks of black, granular, warty extravasation;" and again, the "inner coat of the stomach was pulpy, in many points black." Van Hasselt says the mucous membrane is sometimes colored brown from altered blood. Wormley states that "the lining membrane of the œsophagus is sometimes much softened and the bloodvessels congested with dark blood," and that "in a few instances the coats of the stomach presented a dark or nearly black appearance." In another case, which proved fatal on the twenty-third day, he says the "muscular coat throughout the gullet and stomach presented a dark appearance." Guy states that the epithelial lining of the œsophagus is sometimes detached, leaving a brown surface. These are the only references to such a remarkable appearance in the long list of toxicological authors quoted above. In the cases reported in the medical journals during the past twenty years, however, we find a few instances bearing a strong resemblance to or identical with this case. In the *Lancet* of Oct. 19, 1844, the stomach of a girl 22 years old, who died from the effects of oxalic acid, is described as "blanched and with black spots." In the same journal of Dec. 1, 1855, after a rapid death, the stomach is reported as "black and congested." That our case is not unique may be seen by reference to a plate published in the *Edinburgh Medical Journal* for July, 1861. The striking resemblance to the appearances of the œsophagus and stomach, as hitherto described and as seen in the specimen preserved, will be apparent at a glance. The specimen from which this colored drawing was made was removed from an infant 12 days old, which had died within an hour after a large dose of oxalic acid in solution had been administered by its mother. "The gullet near the cardia was of a deep ashen color," and "the mucous membrane of the stomach generally was of a dark color." Perforation had taken place, as in three other cases on record.

In order to test farther this action of oxalic acid upon the tissues of the stomach and œsophagus, the following experiments were made. On the 8th of April a stomach was removed at an autopsy. It appeared healthy. On the following day a solution of the acid, ℥ss. to ℥i. of water, was poured into it and into the œsophagus, which was shut off from the stomach by a ligature. On the 10th, the vessels of the stomach were seen externally to be blackened and the organs darkened, the œsophagus being much darker than the stomach. On the 12th they were opened. The lining membrane of the œsophagus was much darker than that of the stomach. The mucous membrane was everywhere white, but the coats beneath were dark and had a scorched look in places. On subsequent exposure the whole internal surface of the stomach blackened at the tips of the rugæ. This latter circumstance confirms Christison's observation, and is interesting in connection with the fact that the towels and sheet spoken of, in parts where stained by the discharges from the deceased, gradually turned to a dark brown on drying on the tops of the folds exposed to the air. The change was very striking.

April 16th, another stomach was taken from a person dead not twenty-four hours. It was healthy within and without. A solution of oxalic acid one half the strength of the previous solution, gr. xv. to ℥i., was turned into it. On the following day the exterior of the œsophagus was blackened, closely resembling in appearance that in our case. The exterior of the stomach was not at all changed, except the bloodvessels were seen to be darker. On opening it, the mucous membrane of the œsophagus was not so white as in the first specimen. The whole tube, where it had been in contact with the liquid, had a dark-brown or dark slate color. The tissues beneath the

lining membrane were not softened. The inside of the stomach was scarcely at all blackened; the mucous membrane was pale. The portion of the duodenum included within the ligature was also not at all blackened inside.

Such are the effects which may be produced upon the tissues after death, and when containing but little blood. For an opportunity of testing its action upon living tissues I am indebted to Dr. Amory, who most kindly furnished the material and assisted in the following experiments at his physiological laboratory.

April 19, ℥ss. of oxalic acid in ℥j. of water was injected by a tube into the empty stomach of a large and healthy pup, six weeks old. In a few minutes vomiting began, and was repeated several times. There was no purging. Six hours afterwards there were remaining no symptoms of illness. Section in twenty-four hours after killing showed the stomach and œsophagus pale and healthy; there was nowhere any reddening or blackening of the tissues visible.

At the same time a pup of the same litter, also strong and healthy and in a fasting condition, had injected into the stomach the same quantity of the same solution, the œsophagus being immediately tied just below the pharynx. Immediate attempts to vomit followed, which continued for some time. Death took place in two to four hours. Section twenty-four hours afterwards. The stomach was found inflated by gas. Externally it was reddened in parts, and the bloodvessels of the cardiac portion were visible and of a black color. It contained a dark colored liquid and mucus. The lining membrane was reddened in parts and covered with a dark colored mucus, easily removed by the finger. Near the cardiac orifice it had a dark-brown, scorched appearance, not to be wiped away. The interior of the œsophagus was pale, and generally stained of a dark blackish color. These appearances, as will be seen, closely resemble those presented in the stomach and œsophagus in this case, and strongly confirm the theory that they were produced in the same way.

Blood.—All authors speak of the black color of the blood in the vessels of the stomach, owing to the local action of the acid, but Tardieu is the only one who lays any weight upon its condition elsewhere. Christison speaks of its universal fluidity, but the former says, "J'insiste sur une particularité qui ne me parait pas avoir été signalée, c'est la coloration généralement vermeille du sang et de tous les tissus pourvus d'un système capillaire très-apparent. Dr. ——, in his testimony, particularly mentioned the vermillion or reddish hue of the blood. In this connection it is interesting to remember that oxalic acid cannot be detected in the blood, and that if injected into a vessel it is so readily decomposed that it cannot be recognized even after a few minutes.

Conclusions.—From a consideration of all the facts in the case as thus presented, and from information derived from the analysis, experiments, and the observations of others, I am led to the following conclusions:—

1st, That the *symptoms* are those of an irritant-narcotic poison, and closely resemble those produced by oxalic acid; the delay in the appearance of the pain and vomiting as well as the general features of the case indicating that it was administered in a dilute form.

2d, That the *post-mortem appearances* are such as can be accounted for only by the action of a poison; and correspond in their striking peculiarities more closely to those sometimes caused by oxalic acid than by any other known agent.

3d, That the failure to detect other poisons in the tissues and fluids of the body, and the discovery of oxalic acid in a soluble form (and not as oxalate of lime) in matters discharged from the body can, in connection with these symptoms and *post-mortem* appearances, be interpreted only by the theory that death was caused by its administration.

CRITICISM ON "TWO CASES OF DOUBLE SPONTANEOUS DISLOCATION OF THE LENS."

These cases are reported by Dr. H. W. Williams, of Boston, in the number of this Journal for Jan. 6, 1870. I think the treatment in the first case and the diagnosis in the second are open to criticism.

A man, æt. 35, noticed a quivering of the irides when 18 years old. Eighteen months ago the lens of the right eye was dislocated into the anterior chamber, which accident has repeatedly occurred since, "not generally accompanied with pain." When he applied, the lens had been four days in the anterior chamber, "giving him a dull pain in the globe, and causing very slight injection." Dr. Williams reports the vision of the other eye to be one third, using concave six; and for reading, "good." We are not told whether the patient was myopic before the quivering of the irides was noticed; *i. e.* whether the

myopia was connected with relaxation or partial rupture of the suspensory ligament of the lens.

Whether the dislocated lens was in its capsule or not is not reported—merely that "it looked like a drop of oil." The lens was got back behind the iris by rubbing the cornea with the lid whilst the patient was on his back in a darkened room. "Three large doses of extract of calabar bean were put into the right eye, producing an evident but slight diminution in the size of the pupil." This did not prevent the lens from tumbling forward again "upon making slight movement." "It is not unlikely that some accommodative effort of the eye may have had an agency in the displacement." How this is possible Dr. Williams does not undertake to say. But if it were, why, then, was the patient "dismissed with directions to put a square of calabar gelatine into the eye every hour," *which would cause constant accommodative effort?* Three large doses had not in an hour shut the pupil enough to hold the lens behind the iris. When there, the lens was not in proper position, it must be noticed, but slipping about; therefore if "a permanent barrier to the escape of the lens into the anterior chamber" *had been* brought about by the calabar bean, the patient's vision would not have been good. Moreover, the extract of calabar bean cannot be continuously applied to the eye even as atropine can. Therefore I hold that the advice to continue its use was not good. As it proved, by "the next day the lens had been several times displaced."

Nothing is said in this report as to the present or future necessity of removing the dislocated lens, or as to the patient's being advised in reference to this point. If this was done, I of course have no further comment; but if not, then I hold it was not good surgery to dismiss the patient without operating or advising it. The whole weight of evidence is in favor of always removing a dislocated lens, especially when it cannot be kept behind the iris. Experience shows it is a "foreign body," likely to produce any trouble, from "a dull pain in the globe with slight injection," as in Dr. Williams's case, within four days, up to ulceration and perforation of the cornea, as was seen by Prof. Graefe; that being the best way nature can extract it. In vol. lxxiv., p. 73, of this JOURNAL, Dr. Williams reports extracting a dislocated lens which was opaque. If this one was left because transparent, I simply say I cannot regard it as good surgery. The ophthalmic journals and text books are full of reports of partial or total displacement of the lens, and experience has fully demonstrated that the sooner a dislocated lens is removed the better for the patient. I forbear tedious quotations from Græfe, the London observers and others.

In the second case, "a boy of about 12, both of whose eyes exhibited partial lateral displacement and slight opacity of the crystalline;" I hold the diagnosis should have been, not "spontaneous dislocation," but *congenital malposition*, as has been often observed. Dr. Williams does not state the amount of the displacement, *i. e.*, whether light entered the eye at one side of the lens, and the mental imbecility of the patient prevented his ascertaining his vision.

B. JOY JEFFRIES.

15 *Chestnut Street.*

A CASE OF TETANUS.

By DANIEL DANA SPEAR, M.D., Kennebunk, Me.

MR. C. was a strong, healthy man, possessed of more than ordinary physical endurance. Early in October, while engaged at labor about his mill, he stepped upon a rusty nail, which pierced his left foot, wounding the external plantar nerve. A small piece of leather was carried before the nail and left within the wound. After the lapse of three days, slight suppuration took place, and the piece of leather was discharged from the wound, which in a few days very kindly healed, and seemed of very trivial importance. In fact, the man kept about his ordinary work, giving it scarcely passing notice.

Ten days from the above occurrence there came on very gradually, first difficulty of deglutition, then pain and stiffness in the back of the neck, and soon partial rigidity of the jaw, which finally became locked. The face was drawn into a painful sardonic smile.

At this juncture of the disease I was summoned to the patient, and first prescribed a cathartic of calomel and jalap, with view of unloading thoroughly the alimentary canal. I then ordered brandy in half ounce doses, as often as each half hour, given in milk, also twenty drops of chloroform in water every two hours.

This treatment was followed for several days, when Dr. Jewett, of South Berwick, a physician of much intelligence, was called in consultation. At his suggestion the chloroform was alternated with the fluid extract of cannabis Indica, in doses at first of twenty drops. During the whole course

of treatment no material change was made in the administration of the remedies used. The cannabis Indica was employed in increasing doses, till the maximum dose of a fluid drachm was given each four hours. The treatment was continued above four weeks. The case for some ten days seemed shrouded by uncertainty—the horizon cloudy and dismal. A passing breath of air, the familiar face of well loved friends, an unknown voice, any unanticipated affair, was sufficient to determine a spasm and produce not only trismus but opisthotonos.

The patient was discharged at the end of six weeks, apparently cured. Some two months have intervened without witnessing any return of tetanic symptoms.

With regard to the large doses of the cannabis Indica swallowed by the patient, the object was to bring him under its influence. If a smaller amount would have had the desired effect it would not have been increased beyond that. Whenever these doses were given they gave decided relief. The patient frequently begged for the welcome draught. I do not know what might be the result of other remedies, but it does seem to me that a trial of this in every case should be made, if only for the relief of pain it produces.

The diet of the patient was milk and beef tea. He was allowed to drink of cold water whenever he desired it.

Selected Papers.

LUXATIONS OF THE HIP-JOINT.

[We take the following article from the *Chicago Medical Examiner*. It speaks for itself.]

Mr. Editor:—In a pamphlet* which Professor Gunn has somewhat widely distributed in this vicinity, and which has been brought to my notice since I recently returned from abroad, he makes the following remarks:—

"Professor Bigelow does me great injustice in the manner in which he alludes to my writings; on this subject, he says:—

"'Professor Gunn maintains, in a paper upon this subject, that any untorn or undissected portion of the capsular ligament is capable of producing the signs of hip and shoulder luxations.'"

This is quoted from a part of my paper intended to do justice to the theories of different writers upon the questions of muscular and capsular resistance in hip dislocation.

I trust that Professor Gunn, for whom I entertain great respect, will acquit me of any intentional act of injustice. The above statement was made upon a careful study of his pamphlet, which I first met with several years after my own theory was made public. In now re-examining Professor Gunn's pamphlet, I see no reason for modifying the statement to which he objects; indeed, his views differ so widely from mine, in respect to the varieties, classification, pathology, and treatment of hip dislocation, and, in fact, as to everything except the general region of the capsule concerned in two of seven regular dislocations, that his pamphlet does not strictly require a reply.

Professor Gunn confines himself chiefly to the question of resistance to reduction in two dislocations, namely, the dorsal and so-called "ischiatic." It may be observed, however, that, of the two dislocations alluded to, he fails to appreciate the character of what he, in common with previous writers, calls the "ischiatic" luxation, which, in the only case he cites (p. 13), was, as he says, primarily dorsal. If it was primarily dorsal, as alleged, Professor Gunn's remarks really refer, not to two luxations, but only to one, namely, the dorsal; because, as the tendon of the obturator internus must have been ruptured, to allow a change of place from the dorsum to the ischiatic notch, the luxation he calls "ischiatic" had no proper claim to be so designated, but was simply dorsal. But the present communication is addressed only to the question of "injustice" to Professor Gunn.

My paper* embraces a general treatise upon hip luxations, of which seven regular varieties are enumerated, four at least being new, and all owing their phenomena, as I believe, chiefly to a single portion of the capsule of the hip, namely, to the iliofemoral or Y ligament (so called for brevity), in one or both of its branches.

Professor Gunn, on the other hand, recognizing only the four luxations of previous writers, urges that in a paper published in 1853, and subsequently incorpo-

* Luxations of the Hip and Shoulder Joints, and the Agents which oppose their Reduction. By Moses Gunn, A.M., M.D., Professor of the Principles and Practice of Surgery and Clinical Surgery in Rush Medical College; formerly Professor of Civil and Military Surgery in the University of Michigan. Second Edition. Chicago, 1869.

* The Mechanism of Dislocation and Fracture of the Hip. With the Reduction of the Dislocations by the Flexion Method. By Henry J. Bigelow, M.D., Professor of Surgery and Clinical Surgery in the Medical School of Harvard University; Surgeon of the Mass. Gen. Hospital, etc. Philadelphia, 1869.

rated with other papers in a pamphlet which he now republishes, he had already identified the *anterior and inferior portion* of the capsular ligament as a cause of resistance to reduction in the *dorsal* luxation, and in the (erroneously so called) *ischiatic* luxation. But he fails to add, that he similarly identifies, in the same pamphlet, *another and different part* of the capsule as the cause of the resistance in *other* luxations.

Again (to return to this point): Professor Gunn states, that, in the "dorsal" and so-called "ischiatic" luxations (after the posterior and upper half of the capsule is cut away), the *anterior and inferior half* of the capsule binds down the head of the bone, and opposes its reduction (p. 5).

Professor Gunn here speaks only of two similar and allied luxations—probably only of one—and shows no knowledge of the existence of an ilio-femoral ligament. He also points out, as essential, the resistance of the inferior portion of the capsule, adjoining the obturator foramen, where it is actually thinnest and least capable of resistance to reduction. Indeed, he defines very imperfectly even the "half" of the capsule to which he calls attention. In an account of an experiment in the winter of 1858–9, he says (p. 11), that "the upper and *posterior* half of the capsule was then cut away;" while in reference to other experiments, in 1868–9, he says (p. 18), that "the upper and *outer* portion of the capsular ligament" was removed, at the same time identifying this as "the dissection used in former experiments."

But I am nevertheless ready to concede, that, within these narrow limits, namely, in designating loosely *an anterior capsular resistance in dorsal dislocation*, Professor Gunn is in the main correct and deserving of the credit it was my object to accord to him. He goes further, and, as I think, astray.

He directs, that, "*in the forward dislocation upon the pubes*, while extension and counter-extension is being made in the usual manner" (i. e. by the old method of longitudinal extension), "the limb should be rotated externally; this," he says, "relaxes *the posterior and untorn portion* of the ligament" (p. 20).

I think that Professor Gunn will not contend that this *posterior* portion of the capsular ligament, "untorn," as he says, in the pubic luxation, and therefore to be relaxed by a special position of the limb, is identical with the *anterior* portion, which he has repeatedly before pointed out as "untorn" in the dorsal luxation, and which is to be relaxed, as he states, by a wholly different position of the limb.

It is plain that *two different parts* of the capsule are here referred to by Professor Gunn; and, as these two parts manifestly comprehend the whole, these passages alone are sufficient to show that there is no injustice in attributing to him, in the sentence he has quoted, the theory that "*any*" untorn or undissected portion of the capsular ligament is capable of producing the signs of hip and shoulder luxations.

But in thus refuting the specific charge of Professor Gunn, I have not spoken of the general drift of his whole pamphlet, the conclusions of which are summed up on its last page, and which still further substantiate my expressed conviction. His theory for both hip and shoulder is, that, when the bone passes to one side of the socket, it tears that side of the capsule, and leaves the rest sound, and that the essential resistance to reduction is due to this remaining sound side. This theory is indeed the key note of Professor Gunn's paper, and upon it he bases his system of reduction. In the dorsal dislocation, for example, of which it almost exclusively treats, he considers that because the head of the bone is found upon the dorsum it should be reduced through the dorsal laceration, and reiterates (pp. 13, 14, 16, 18, 20), even in italics, the necessity of *adducting* the limb across the other for this purpose. In his only reported case, he accomplishes this (in his own words, "*arte non vi*"), by a Jarvis's adjuster (p. 13). He says (p. 20), "We further lay down the following special rules:—In the luxation upon the dorsum ilii, the patient lying on his back, carry the limb across its fellow at a point corresponding with the union of the middle with the upper third, rotate inwards, and the pelvis being fixed by an assistant, the head may now be readily drawn into its place."—that is, through the dorsal laceration of the capsule, no matter how inconsiderable this may be. According to my theory, dorsal dislocations are best reduced from below the socket, after the capsular orifice is enlarged if it is constricted, with the thigh flexed at right angles to relax the Y ligament, and sometimes even finally *abducted*.

"In all dislocations," says Professor Gunn, finally, "place the limb in just the position which characterized it at the moment of escape, and the reduction will then be easily effected" (p. 20), a direction which would prove, as I think, sometimes impracticable and sometimes erroneous. Different

positions for the different luxations, both of the hip and shoulder, are enumerated in "special" and "general" rules (pp. 19–20)—clearly indicating a belief that in different luxations *different parts of the capsule are torn*, and, as a consequence, that *different parts of the capsule remain*, at once essential to the phenomena, and requiring to be relaxed by wholly different positions, in order to reduce the limb.

My meaning would perhaps have been more exactly rendered by saying, "Professor Gunn maintains, in a paper upon this subject, that *different* [rather than *any*] untorn or undissected portions of the capsular ligament are the essential agents of resistance in the reduction of hip and shoulder luxations."

This doctrine is wholly opposed to my own, which recognizes *the* Y *ligament* as the chief obstacle to reduction, in seven regular dislocations, and directs flexion of the thigh to overcome its resistance.

But upon this point, Professor Gunn, after speaking of the "anterior and inferior portion," or, as he also characterizes it, "half," of the capsular ligament, and its relation to dorsal dislocation, says, "Surely this language includes the so-called Y ligament, unless its author finds also a new location for that structure," thus claiming by implication a knowledge of the pathological functions of the Y ligament. Professor Gunn should remember, that, although the greater may, in one sense, include the less, as a block of marble does a statue, yet that there is no sentence or word in his whole pamphlet which alludes to the existence of an ilio-femoral ligament in the capsule. Inasmuch as this ligament is one of the strongest in the body, "thicker than the ligament of the patella or of the tendo Achillis,"* and is only a part of the literally "undissected" (p. 19) half designated by Professor Gunn as producing the phenomena of dorsal dislocation, it is difficult, in view of this silence, to understand how it could have been in his mind at the time of writing his pamphlet, or why, in common with all other modern surgical writers and authorities, he should have wholly ignored it in this relation till after my paper was published.†

Since the above was written, my attention has been directed to a notice in the Chicago Medical Journal (Oct. 1869, p. 581), reiterating, under the term "unfairness," Professor Gunn's charge of "injustice." The writer says also, "So far as we are able to see, this author [Professor Bigelow] has added nothing to Professor Gunn's exposition of the subject, save only this new name of that portion of the capsular ligament—the anterior and inferior—heretofore known as the ilio-femoral, but which he christens as the Y ligament."

This zealous defender of Professor Gunn obviously possesses one alleged qualification of an impartial critic: he has not read the paper he criticizes. His remarks require notice only so far as they relate to the charge of "unfairness," which I think needs no further comment.

HENRY J. BIGELOW.

Boston, Nov. 24, 1869.

* Traité d'Ostéologie, etc., S. P. Soemmering and G. & E. Weber. Paris, 1843. pp. 323–324.

† ERRATUM.—The word "published" was here accidentally substituted, in the printed proof, for *made public*. By seeming to refer to the *printing* of my paper in 1869 instead of its *public reading* in 1861 (see p. 10), it does injustice to certain European observations in 1865–8; and on this account I am unwilling to leave it uncorrected. But this is a separate and here wholly incidental question. As far as the passage relates to Prof. Gunn, I believe it to be strictly correct as it stands. I cannot find that he alludes to the ilio-femoral ligament before Sept. 17th, 1869. H. J. B.

Reports of Medical Societies.

OBSTETRICAL SOCIETY OF BOSTON. SECRETARY, DAVID F. LINCOLN, M.D.

NOV. 13th, 1869.—The Society met at the house of Dr. Arnold, at 7½ P.M.; the President, Dr. Buckingham, in the chair.

Dr. LYMAN spoke of the death of Dr. Hooker, on the 6th inst., and at the conclusion of his remarks suggested that Dr. Wellington should communicate to the family in writing the sentiments of sympathy felt by this Society.

Dr. WELLINGTON spoke of the intimate nature of his acquaintance with Dr. Hooker, and its uniform pleasantness. He said that Dr. Hooker, in forty years, had had eight thousand cases of midwifery. In East Cambridge no one's loss could be more felt than his; he was looked up to as a father; he had literally no enemies. He was 70 years old, and bore his age remarkably well, going about his daily business until within a few weeks of his death.

Dr. COTTING spoke to the same effect, and desired to second the motion of Dr. Lyman.

The President said that it struck him as strange, and honorable alike to the mourners and the dead, that the shops in East Cambridge should have been closed during the funeral services. Nowhere else, except in a little country town, should we expect to see such a general spectacle of mourning for a simple private citizen. He never had heard anybody—not even a physician—say aught against him. He cordially supported the motion, and hoped that some account might be placed on the record of the Society.

The resolution of Dr. LYMAN was passed unanimously.

Dr. ARNOLD related a case of twin-pregnancy, and showed a specimen. Mrs. ——, aged 34 years, in her third pregnancy, had last menstrual flow four months previous to miscarriage. When called, the larger fœtus was found in the vagina, the smaller one in the os tincæ, with membranes unbroken and entirely separated from the other. The larger fœtus was of normal proportions. The smaller—about seven-eighths of an inch in length—eyes, nose and mouth quite distinct—extremities just forming, appeared to be at about the sixth week of fœtal life.

Dr. READ related the following case:—Mrs. ———, aged 26, has been pregnant thirteen times, but has gone to the full term only three times. One child is living, one lived two or three months, one died just after birth. Soon after impregnation there seems to be set up a *quasi* disease, characterized by dropsy of the abdomen and the lower and upper limbs, pains all over the body, nausea, vomiting, and a darkening of the skin. There is no albuminuria. This condition is never relieved until miscarriage or labor occurs. The last miscarriage occurred on the fifth of August. Patient was by her reckoning about six months pregnant, and for two months had been suffering with the symptoms above mentioned. The os uteri was rigid; so much so that no dilatation that could be brought to bear on it sufficed to overcome it. It felt as if there were fibrous bands in the cervix which prevented it from relaxing. A curved bistoury was introduced along the finger, which could be inserted within the os as far only as the first joint, and its edge turned up during a pain and withdrawn, cutting its way out. This was repeated three times in the same place, and immediately after the last incision the child was born with one pain. The placenta came away directly. Upon examination it was difficult to detect the place where the incision had been made. The only remains of it—more than an inch in length—was a little notch just admitting the finger nail. There was no unusual flowing subsequently. The points of interest in the case were:—1st, the exceptional form of rigidity of the cervix—the result, probably, of undue interference in the earlier miscarriages of the patient. 2d, the instantaneous delivery of the child after the fibrous bands were incised. 3d, the safety of the operation.

The President mentioned a case, already reported elsewhere. The patient had always had severe labors. At the labor in question the os was open to the extent of one and a half inches, and seemed as if surrounded by whipcord. The pains were tremendous, forcing the head and neck of the child outside of the external parts. Fearing rupture, he sent the nurse out of the room for a moment, and made a nick in the edge of the os with his knife. It seemed as if the cut was a yard long; the child was born in an instant; and yet, on putting up his hand after the labor, he felt nothing of the incision just made.

Dr. READ mentioned an instance of the occurrence of milk abscess in a woman six months gone in her first pregnancy.

Dr. WELLINGTON had seen one similar case in a woman three or four months pregnant.

Dr. COTTING had seen the same in a primipara, three months before the full term. The abscess pervaded the whole breast, which subsequently shrivelled and became useless.

The President spoke of the case of an illegitimate child that had lived two or three days denuded of the cuticle. (Previously reported by Dr. B.) In another case, the feet were denuded, and the other parts purple; the child lived twenty-four hours; and the mother afterwards had puerperal mania. There was no trace of syphilis. He also inquired as to the possibility of a previous acute attack of scarlatina in utero. He had never seen a child born with it; but had seen one fully covered with measles at birth, though the mother did not have it; the child lived twenty-four hours.

Dr READ spoke of the way in which knots in the umbilical cord originated during the exit of the child from the uterus.

Dr. ARNOLD spoke of a woman who miscarried at the fourth month of her first pregnancy, and from that time till her second confinement had enormous and continuous lactation, without having suckled a child.

Dr. LYMAN inquired what the practice in this neighborhood was in respect to regula-

tion of diet after confinement. He had found a liberal diet successful, especially in the way of securing a good supply of milk.

Dr. WELLINGTON had always kept his patients on low diet after confinement, until within three or four years past. He had found much advantage in his present practice of allowing more nutritious food.

Dr. CURTIS had been led to adopt the plan of giving a nutritious diet, by the unwillingness of his patients to submit to the old method of low diet.

Dr. COTTING had no great fears in giving a pretty full diet. He was accustomed to ask his patients what they wanted, and then to select the milder of the articles named. But he was not afraid, however, of patients starving on corn gruel, if they liked it.

The President remarked as follows:—For a great many years he has given the nurse directions about food immediately after delivery; the woman always has something to eat before he leaves the house. Gruel is given shortly before the close of labor, and directly after. The woman is kept on a good substantial gruel diet until the milk comes; the gruel is made of meal or pounded crackers, and at least as much milk as water. Solid food is seldom given before the milk comes; although he does not see why certain kinds of solid food should do any more harm than the pap cooked over the fire. If the woman had flooded, or has poor blood, she takes as soon as possible after delivery the broth prepared from beef or other meat. The woman who is fed well from the beginning is a better nurse. If she asks for nothing indigestible, he says "Let her have anything she likes, if well cooked. Let her have *salt fish*, if she wants it." Butter that has been melted becomes less digestible in consequence. Some people, during attacks of dyspepsia, have a peculiar ability to digest strange articles of food, which at other times disagree with them.

Dr. READ would agree with Dr. Buckingham in his regimen for lying-in patients, and thought gruel made as described quite as nourishing as meat. It had been his custom to advise his patients to avoid drinking any more than was absolutely necessary for the first days after delivery, and he thought by this he prevented a great pressure of milk into the breast, until such time as the child is able to keep the breasts well drawn.

Dr. LYMAN finds that failure of the milk after the second or third month is frequent, but that it is less likely to occur when the mother is well nourished from the first.

The President, speaking of the prejudice against vegetables, as causing "windy milk," said that the sooner the mother takes vegetables the sooner she will have healthy milk.

The Society then adjourned.

Medical and Surgical Journal.

BOSTON: THURSDAY, JANUARY 27, 1870.

NOTES FROM THE GAZETTE HEBDOMADAIRE.

Copper a Prophylactic of Cholera.—M. Burq, says M. Fonssagrives, has for twenty years striven to establish the triple fact, 1st, of the immunity from cholera enjoyed by workers in copper; 2d, of the prophylactic efficacy of copper employed internally and in small doses; 3d, of the utility of remedies of this category when the disease in question exists. Received with some incredulity, which, however, did not dampen his convictions, the ideas of M. Burq might have been smothered under the prejudice or indifference which obtain as regards questions of preservation from and the treatment of cholera, so difficult, complex and susceptible of doubt, are experiments in prophylaxis and therapeutics. But those ideas deserve to be put on the plane of professional hygiene, if they have as much vitality as their defender has had of perseverance. Now the report made by M. Vernois to the Council of Hygiene, June 25th, 1869, and worked up out of the immense statistical documents collected during 20 years by M. Burq, brings out this truly striking fact, that during the later epidemics of cholera, the mortality of the workers in copper was in the proportion of 3 in 10,000 persons; and that out of 6000 other copper workers (stampers, *repousseurs* and copper-smiths) *not one* appeared in the hospitals in 1865 and 1866 to be treated for cholera, whilst the workers of iron and steel have furnished a cholera contingent of one in 139; and the zinc and lead workers one in 176. The reviewer—M. Fonssagrives—thinks the supposition plausible that the source of the immunity lies in the absorption of particles of copper. Attention is drawn, he says, to the fact of the

coppery impregnation of workers of the metal—nothing is wanting to the picture; not even the green color of the hair and beard of those persons. Is this saturation, he asks, a matter of no concern in the premises; and if it should prove to be of significance, would it be the first time that a substance injurious in itself had proved to be, by way of compensation, a source of special immunity? And, furthermore, are we so far advanced in our knowledge of the causes and nature of cholera as to be in a position haughtily to reject a hypothesis supported by such a considerable number of facts? M. Fonssagrives, though he is not acquainted with M. Burq, and has had neither the opportunity nor the means of verifying the latter's trials of the prophylaxis and cure of cholera by copper, does not hesitate to declare that the facts adduced by M. Burq are presented in an eminently scientific form, and furnish a basis of very serious probability. Philosophical prudence prevents the reviewer from going further. But, he would be glad if his testimony should be of any value to M. Burq, who, he says, must in this contest have come in painful contact with more than one *a priori* objection, and who is worthy of respect for having devoted twenty years of his life to an idea.

Cast-Iron Stoves again.—Fonssagrives also calls up once more the question of the insalubrity of cast-iron stoves, and renders a tribute to M. Carret, who has been working at the subject since 1849. His review is worth reporting. He says a new disease prevailing epidemically, attacking by preference sedentary persons, appearing only in winter, undergoing aggravations which coincided with those of the cold weather, characterized symptomatically by prodromata very analogous to those of certain forms of typhoid fever, subsequently by cephalalgia, vertigo, oppression, bloody sputa, smallness of the pulse, persistent disturbances of the nervous and digestive functions—this malady was referred by M. Carret to the prolonged inhalation of carbonic oxide gas disengaged by red-hot cast-iron. The opinion of the author of this theory was from the first combated by chemical arguments, and M. Regnault and Chevreul, with an authority full of menace for the theory of M. Carret, came forward to deny that cast-iron could disengage enough carbonic oxide to produce the symptoms detailed by this distinguished physician. But subsequent experiments conducted by a commission of the Institute composed of MM. Payen, Morin, Fremy, and H. Sainte Claire Deville, sustained the ideas of M. Carret. They demonstrated at the same time the disengagement of carbonic oxide gas by red-hot stoves, and also the permeability of cast-iron by this gas. Now carbonic oxide—that *blood-poison* which kills the red globules, or at least renders them unfit for the exchange of the gases on which their revivification depends—has for a long time given proof of its toxic property. Therefore it cannot enter the head of any one that its habitual and daily inhalation during the whole of the cold season of the year, may be a matter of indifference to the health. Hygiene cannot, any more easily than chemistry, underrate the power of slight causes working with prolonged repetition; and she knows wondrously well that the poisonous agents most to be feared are not those which act with dramatic outburst. Besides, I cannot, says Fonssagrives, too often reiterate, that every time I see a result which is attested by scientific proofs, borrow additional probability from common report, I feel confirmed in my belief in its reality. I believe in the insalubrity of cast-iron stoves from having myself been indebted to them for more than one headache. Though M. Carret, he says, in his earnestness has enlarged the list of the misdeeds wrought by carbonic oxide; whether also this gas be alone responsible for the bad effects produced by the mode of heating in question, or they be due in part to the elevation of temperature and the drying of the air, as M. Coutier contends; however these things may be, one fact is indisputable—cast-iron stoves have made those who have used them pay dear for their economical advantage. The open fireplace, he adds with great truth, has hygiene on its side, because it not only supplies a means of heating, but is a permanent and efficient ventilating apparatus.

In recalling this important subject to our

attention, it should be borne in mind that the investigations of Dr. George Derby, in this city, tend to show that the drying of the air has had but little to do with the pernicious effects and disagreeable sensations produced by cast-iron stoves or furnaces.

Chloral—Caution.—Practitioners should be sure of the purity of the article when they use chloral. M. Picot writes to the *Gazette Hebdomadaire* that on using one specimen from a druggist of reputation, the rabbit's ears into which it had been injected suppurated and sloughed off. Six rabbits were experimented upon, and M. Picot finds himself the owner of six earless rabbits.

M. P. sent for another specimen, which differed in appearance from the first; and his rabbits injected with it had no bad symptoms, and *no anæsthesia nor hypnotism.*

LETTER FROM VIENNA.

Mr. Editor,—Within a short time a pamphlet of 110 pages, with illustrations, has been published by Prof. Stricker, in which are given the investigations and experiments carried out in the laboratory during the last year.

I cannot better illustrate the leading principles and ideas which prevail in the scientific labors of this institute than by giving the headings of the different papers.

"Concerning the present State of the Doctrine of Inflammation (an introduction to the following papers). By S. Stricker."

"Experiments upon Inflammation of the Cornea. By William F. Norris and S. Stricker."

"On the Division of Cells in Inflamed Tissues. By S. Stricker."

"On the Relations of Vessels and Nerves to the Process of Inflammation. By S. Stricker."

"On Traumatic Encephalitis. By Dr. Friedrich Jolly."

"Investigations concerning the Furrowing and the Formation of the Laminæ of the Hen's Egg. By Dr. Josef Oellacher."

"On Endogenous Formation of Pus Corpuscles in the Conjunctiva of the Rabbit. By Dr. L. Oser."

"On the Inflammatory Changes of Muscle Fibres. By Dr. Janovitsch Tschainski."

"On the Histological Changes in the Inflamed Liver. By Dr. And. v. Hüttenbreuner."

"Concerning the Reaction of the fixed Cells in the Tail of the Tadpole after mechanical irritation of the same. By E. Klein & H. Kundrat."

"On Inflammation and Suppuration. A *résumé* of the preceding treatises. By S. Stricker."

It will be seen by the above headings that all these investigations refer to inflammation and the formation of cells.

I will quote from the *résumé* of the Professor, in his own words, the conclusions which he has drawn from these experiments.

"That the pus corpuscles spring from different sources."

"That the process of inflammation is accompanied by an increase of certain functions of the cell elements influenced by the process."

"The exudation is an important, perhaps next to the disturbance of nutrition the most important characteristic of inflammation."

"I believe the signification of the exudation must be viewed in a double sense. In the first place, the current acts as a mechanical irritation; and in the second place, the blood as nutrition material has an influence.

"We have a well-grounded right to enumerate the following order of phenomena as characteristic for artificially produced inflammation. Trauma, disturbance of the circulation, exudation of fluid and formed elements, disturbance of nutrition and new formation."

The whole book is the first act of a great scientific enterprise executed according to one systematic plan. The question is:—what is inflammation, and what part do the different constituents of the inflamed organ play?

A number of tissues have been investigated, the circumstances and conditions of the experiments have been varied many fold. Thus by a number of investigators united under one directing head, a great periphery of facts has been described, every point of which leads nearer to the centre of the true future theory of inflammation. And very valuable foundations are already laid.

I address this letter to you in order to bring to the notice of the medical profession in America, a work which cannot fail to be of very great interest.

H. P. Quincy, M.D.

Vienna, Dec. 25, 1869.

Mr. Editor,—Any suggestion that may lead to a great abridgement in the labor

now needed in making written memoranda, or in taking notes, is surely of importance. There has just been published a 12mo. volume of some 125 pages, entitled, "The Elements of Tachygraphy. By D. P. Lindsley. Boston: Otis Clapp."

The author of this book had taught the most approved system of short-hand writing for many years, but without the success which he desired. He found that he was by no means alone in his experience. This led him to make the attempt to invent a system in which beauty and clearness should be combined with ease in acquisition. The result will be found in the book spoken of. Not a few persons who had for a long time struggled with the difficulties of mastering some of the old systems of short-hand have testified that they have found in Tachygraphy, after a little practice, what they had sought for in vain in their former efforts. And the writer of this note may perhaps be permitted to testify that a daily practice of more than three years of Mr. Lindsley's system, enables him to add his commendation of it. Respectfully, W. S. B.

Boston, Jan. 24, 1870.

The committee on public charitable institutions sat yesterday morning and heard some interesting evidence in support of the petition for a change of location of the Worcester Insane Hospital. Dr. Bemis, physician of the institution, and Dr. Hooper, one of the trustees, were both examined. They testified to the fact that the present location is in a most thickly settled part of the city, where a good deal of business goes on. It is close to a great public railroad station, which disturbs the quiet and seclusion of the patients. The land has become very valuable, and might, it was stated, be disposed of for half a million of dollars. The petitioners propose to remove the institution to one of two locations, one of which is a mile and the other two miles and a half distant from the city, and to buy 170 acres of land. The explanation simply follows up the arguments urged in the annual reports of this hospital, an abstract of which we have already given. The committee before adjourning signified their intention of viewing the location. Dr. Bemis, at the request of the committee, described the system of the Gheel Lunatic Asylum, which he had visited, and said that the plan is to establish that system, so far as it is applicable to Massachusetts, at Worcester. In reply to a question by one of the committee, he said that he did not think it practicable to have one large central hospital to take the place of all the others. It is a good principle to allow an acre of ground to each inmate, but there is no desirable location in Massachusetts where such a tract of two thousand acres is obtainable. He said that it was the intention at Worcester to build small houses in groups and distribute the patients between them. —*Boston Daily Advertiser.*

In a case of poisoning by carbolic acid, reported at the Philadelphia Hospital Medical Society, the following appearances were found by Dr. Houstoun after death:

Autopsy—Eighteen hours after death, made by Dr. Shapleigh, coroner's physician, at which I assisted. Rigor mortis well marked; evidences of violent counter-irritation on chest and legs. The whole surface of the body was very cold, except on the left side about the cardiac region, where the temperature was markedly elevated. Blood, everywhere dark and fluid, emitting very strongly the carbolic acid odor. Whole venous system greatly congested.

The membranes of the brain were congested, sinuses all filled with dark fluid blood. Along the longitudinal fissures was a subarachnoidal effusion of serum; brain substance not particularly congested; color and firmness about normal; no effusion into ventricles; lips blistered; interior of mouth whitish; tongue white, dry and very hard; pharynx and larynx whitened; œsophagus at upper end whitish and rough, gradually becoming red, until it neared the stomach, where it was brownish.

Stomach contained about eight ounces of a chocolate colored fluid, no undigested food. The mucous membrane was of a chocolate color, roughened and charred, in some places completely destroyed, exposing the muscular layer, and everywhere readily detached. This degree of destruction was chiefly found in the cardiac pouch; near the pylorus it was thickened, and velvety to the touch. This discoloration and destruction continued through the duodenum, fading along the small intestines; the whole alimentary tract was highly congested.

Heart empty and flabby; lungs highly congested; bronchi filled with frothy mucus. Kidneys and liver congested.—*Medical and Surgical Reporter.*

The Staff and Line War.—Admiral Porter, who, as all the world knows, has con-

descended to take everything connected with naval affairs under his immediate control, has found a knot worthy of his vindication in the presumptuous claim of certain bodies calling themselves the "naval staff" for recognition of their relative rank on board ship. Navy surgeons, particularly—discontented grumblers that they are—unreasonably complain of their commodious quarters in the ward-room; decry the regulations which forbid a commanding officer from inviting them into the cabin; impudently assert that twenty years' service on their part should entitle them to nearly equal consideration and emolument with those who have served only five years in the line; and appeal to Congress, in a petition very numerously signed by medical landsmen, for an act conferring on them approximate rank—not, however, involving authority to command, but involving the possible attainment of a higher relative grade than lieutenant-commander, with a corresponding increase of pay, and also implying the social recognition of these potion-peddling plebeians by the aristocrats of the quarter-deck.

The indignant surprise of Bumble when Oliver asked for "more" was but a faint foreshadowing of the wrathful stupefaction which seized upon our Admiral at this crowning piece of audacity. What! call upon Congress to intervene, when he had already settled the question to his own satisfaction! The thing was monstrous! But something must be done, and, humiliating as it might appear, these contemptible adversaries must be met with their own weapons; and accordingly a counter-memorial was incontinently framed. To this the signatures of naval men would have been superfluous appendages; for, lo, is not Admiral Porter the representative of the whole navy in his own proper person? Moreover, the few individuals such as Farragut, whom he does not represent, had signified their approval of the "staff-rank" movement. Under these circumstances, and acting on the purely American principle that commercial success affords convincing evidence of superior capacity to decide all vexed questions, whether political, social, or scientific, this counterblast is signed instead by fifty-four merchant princes, bankers, insurance officers and lawyers, who express their deliberate opinion that "any change which may lower the standard of discipline in the navy must necessarily and injuriously react upon the merchant service," and that, since staff officers are "endeavoring to obtain for themselves such rights and privileges as seem calculated to prove detrimental to proper discipline," they (the mercantile memorialists) deem it incumbent on them, "in behalf of the safety and prosperity of our national commerce," to urge "the greatest caution in the introduction of principles into the maritime service which, we apprehend, will be fraught with so much danger to the public welfare."

Did not this *ex-cathedra* statement come from a source of such unquestionable authority, we should never have conceived that the public weal could be imperilled and the commerce of the country overthrown by the mere fact of treating medical officers of the United States Navy with something remotely approaching the social consideration shown to physicians on dry land. The matter may now, however, be regarded as definitely settled, and it would be impertinent for us to say more than to express our sincere hope that Congress will yield to the memorial now before it all the influence which it deserves.—*N. Y. World.*

M. Despres, Surgeon of the Lourcine Hospital, at the last meeting of the Académie de Médecine, read a memoir entitled "An Investigation into some Points of the Anatomy and Physiology of the Cervix Uteri, the Glands of its Mucous Membrane, and a Function of the Cervix unconnected with Delivery." The following are his conclusions:—1. The cervix uteri contains glands distributed in bunches or ramified tubules, having their seat partly in the muscular substance of the uterus, like the prostatic glandules in the midst of muscular fibres. 2. These glands secrete a clear, viscid, albuminous liquid, analogous to the prostatic liquid, which issues from the cervix in an intermittent manner, giving rise to ejaculation on the part of the female. This "uterine liquid" issues slowly from the cervix, remaining within its cavity and at the os uteri. It has hitherto been improperly regarded as a variety of catarrhal fluid. 3. The object of ejaculation in the woman is to furnish a vehicle for the spermatozoa in order to insure their safe arrival within the cavity of the uterus. 4. These glands of the cervix become obliterated during pregnancy, and constitute cysts or Naboth's ovules. But delivery replaces matters as they were by rupturing the cysts during its progress or during the subsequent retraction of the uterus. 5. The cervix of the uterus is erectile, entering into the condition of erection simultaneously with the other erectile female organs,

and partially opening to enable the uterine fluid to issue.—*Medical Times and Gazette.*

Dr. Tyler Smith set forth many years ago that it was the union of this uterine discharge with the seminal fluid that constitutes the proper vehicle of the spermatozoa to their fertilizing field.—Ed. B. M. & S. Journal.

From a paper read before the New York Medical Journal Association recently, by A. D. Rockwell, M.D., we extract the conclusions drawn from the observation of five hundred cases of disease treated mainly by the method of general electrization :—

1st. The most uniform success was obtained with those diseases that are usually dependent on, or associated with, general debility.

Over three-fourths of the cases of dyspepsia, neuralgia, nervous exhaustion, chorea, hysteria, hypochondriasis, and insomnia, were approximately or absolutely cured, or decidedly benefited.

On the other hand, in chronic rheumatism, hemiplegia, catarrh, epilepsy, &c., the results, though sometimes decided, were yet far less satisfactory. The majority of the cases of neuralgia were of the constitutional variety.

2d. The constitutional and reflex, or peripheric forms of paralysis were, of course, far more amenable to electrization than the central variety of the disease.

3d. In anæsthesia, or paralysis of sensation, the results were far more satisfactory than in paralysis of motion. Of twenty-six cases of anæsthesia, twenty-three were entirely or approximately cured, and in two cases the results were unknown. Many of these cases were of a slight character, and were merely symptomatic of nervous debility.

4th. The results were exceedingly favorable in menstrual irregularities, with which constitutional debility is so often associated, either as a cause or as an effect. Of twenty-one cases of amenorrhœa, dysmenorrhœa, and leucorrhœa, fourteen recovered, or were benefited. None of these symptoms were associated with incurable organic disease. It should be remembered, furthermore, that most of the cases in the table were of an exceedingly chronic character. The majority of cases of dyspepsia, nervous exhaustion, hypochondriasis, &c., had suffered for months and years from their complication of symptoms, and only attempted general electrization as a last resort. Relapses have occurred, thus far, in a small minority of cases. The conditions most likely to relapse, are constipation, hypochondriasis, and rheumatism.

It is, of course, inevitable, that in the process of years, some of those who have been entirely cured of dyspepsia, neuralgia, anæsthesia, menstrual irregularities, &c., must experience renewed attacks. Another important fact in regard to this tabulated statement is, that, in the majority of cases, especially those of a difficult or obscure character, our own diagnosis was confirmed and often preceded by the opinion of the medical authorities who stand highest in New York in their several departments, and by whom the patients were referred to our care. Thus mistakes in diagnosis were guarded against in every way possible.

Mistakes resulting from a complication of treatment were also carefully avoided. Very few of the patients took any other form of treatment, external or internal, while they were using general electrization, and those few, not sufficient to materially affect the result.

It is proper to remark, however, that general electrization may be and is advantageously used, in conjunction with all other forms of tonic treatment, both external and internal.

"Relapsing Fever."*—The Medical Officer of the Privy Council has issued a circular on the reappearance of relapsing fever in London. It was absent from 1855 to 1868, but in and after July, 1868, a few cases were received into the Fever Hospital and the German Hospital, Dalston, the patients being chiefly Polish Jews, who had lately come to Whitechapel. The first patient admitted into the Fever Hospital was, nevertheless, an Irish woman living at Whitechapel. It is, however, possible, that she may have caught the infection from some of the recently arrived Jews in the neighborhood. The disease had for some time previous to this date been epidemic in Russia, and was especially prevalent in St. Petersburg when cerebro-spinal meningitis was raging in East Prussia, in which district subsequently typhus, apparently mixed with relapsing fever, extensively prevailed. At first the patients received into hospital here were exclusively Polish Jews—a wretched hungry class—but afterwards the disease seemed to spread more through

* For a description of the disease see Watson.—Ed. B. M. & S. Journal.

London, chiefly, in all probability, by the agency of tramps, with whom, indeed, the fever is most frequently associated. Up to the evening of Oct. 15, 143 cases had occurred in London. Mr. Simon assures the parochial authorities, that the hospitals, both general and special, have been taxed to their utmost, and that they must not look to them for any further assistance in the reception and management of their sick poor. * * * * *

From inquiries which we have made at different hospitals, it would appear that the rate of mortality in this disease is extremely small, and this may in some measure tend to lay the alarm which has been excited in consequence of the great prevalence this autumn of zymotic diseases. Nor, indeed, does this fever seem to be associated with absolute want, for in only a few of the cases has the cause been traced directly to actual starvation; hence the name of relapsing fever is better than that of famine fever. * * * * * * * —*London Medical Times and Gazette.*

Toothache amongst the Ancients.—One by one our illusions as to the "good old times" vanish. Long had we cherished an idea that at least decayed teeth were unknown to our hardy ancestors, and were the peculiar privilege of our frivolous civilization. M. Mummery, in an able paper before the Odontological Society, has shown, however, that teeth were at times unsound even when the ancient inhabitants of the British islands lived on coarse meal or the produce of the chase. Mr. Mummery has examined all the ancient skulls within his reach in order to determine this point. * * * * * Mr. Mummery's conclusion is that dental disease is not the exclusive privilege of a high state of civilization.—*Ibid.*

Insanity in America.—By the census of 1860, it appears that there were 23,999 insane persons in the United States and Territories at that date, an increase of 8,389 during the previous decade. Probably there are nearly 30,000 insane persons now. In 1860 there were 40 hospitals for the insane in the States and Territories; and more will be reported in the next census.

These 23,999 insane persons are probably members of nearly that number of families; and stand in ties of endearing relationship to many times that number of kindred; all affected, more or less, with the sorrow that dwells in the homes of the insane. Thus the insane and their sympathizing friends must be counted, in America, by hundreds of thousands.—*Dublin Medical Press and Circular.*

On the Detection of fixed Oil in Plants. By T. T. P. Bruce Warren.—The object of this communication was to point out a simple method applicable, on a small scale, to the determination of oils in vegetable juices, &c.

To juice containing caoutchouc, hydrochloric acid is first added, to coagulate it. The residue is treated with bisulphide of carbon, which dissolves out the oily and fatty matter. The addition of dichloride of sulphur causes a granular precipitation in the clear decanted solution.

Fibrous substances are preferably treated with rectified ether, and the caoutchouc, if present, removed by the addition of alcohol, before digesting in bisulphide of carbon.—*Chemical News.*

A valuable library, the property of the late Dr. B. F. Shumard, of St. Louis, has been published by the public school board of that city. It contains many works on geology and palæontology, together with the geological reports of every State in the Union in which such reports have been published.

DEATHS FROM CHLOROFORM.

A case occurred at the Middlesex Hospital, Dec. 29, 1870. A man, 26 years old, in good health, save for an abscess on the outer side of his hip, who had previously taken chloroform with impunity, was put under its influence by the chloroformist of the Hospital, for the exploration of a sinus which had been left by the abscess. It was given on folded lint, and "all went smoothly until about five minutes after the commencement of the operation, when the man suddenly ceased to breathe." Only one drachm had been given. Attempts at resuscitation, continued for an hour, were fruitless. The *Medical Times and Gazette* states that "the man was married and leaves a wife and two young children," and naively adds that "it is many years since a similar accident happened in this Hospital."

At the autopsy of the dead man the heart was found fatty and the seat of "somewhat recent endocarditis."—(*Medical Times and Gazette*, Jan. 1, 1870.)

Dr. G. W. J. Swan, a successful physician of North Salem, died recently from an overdose of chloroform administered by himself for relief from suffering.—*Daily Paper.*

Medical Miscellany.

MANAGEMENT OF PERTUSSIS.—In Newark, N. J., most of the physicians send their patients to the purifying room of the Gas Works to spend an hour or two daily, the inhalation of the fumes arising from the gas passing through lime having the effect of moderating and shortening the disease. In cases where it is inconvenient to visit the works, carbonate of lime has been produced therefrom, and placed in vessels about the room in quantities sufficient to impregnate the atmosphere, and has been attended with good results. When access to gas works cannot be had, the hydro-phenil, which, when unpurified, is called benzine, is used as recommended in *Braithwaite;* and the same results obtained as from a residence in the purifying chambers of the Gas Works. Ten or fifteen drops are given in a little water to a child every day, and as soon as it is asleep a few drops are sprinkled on the pillow, so that the smell is diffused throughout the room.—*Trans. Med. Soc. of N. J.*

AN ELECTRICAL INFANT.—There is a wonderful account in all the French papers of an astounding baby just dead, at the age of ten months, at St. Urbain, near Lyons. The strongest medical evidence is said to be given that the child was so highly endowed with electricity that all the persons in the same room with him received constant electric shocks. Its end was apparently painless, but accompanied by still more astounding manifestations. At the instant of death luminous effluvia proceeded, it is affirmed by the doctors, from the body of the child, which continued for several minutes after its decease. The case is supposed to be quite unprecedented in the world of science.—*Medical Times and Gazette.*

IN the Pathological Society, on Dec. 7th, Dr. Murchison exhibited a specimen of impacted gall stones. The symptoms observed during life were repeated attacks of colic, pain, and sickness afterwards, and latterly jaundice. The rupture of the duct caused death. Dr. Pye Smith showed a case of suppuration of the heart, probably caused by syphilis. Mr. Pick showed a tracheotomy tube which had remained two years without removal in a man's trachea. Dr. Leared showed the cancerous lung of a patient admitted into the Great Northern Hospital for phthisis. The upper two-thirds of the right lung were invaded by cancer of the encephaloid kind, and cancer cells were seen in the sputum.—*Medical Press and Circular.*

HYSTERICAL APHONIA.—Dr. Tanner says that he never fails to cure this obstinate nervous disease by means of electro-magnetism. He places the patient in a chair, gives her one handle of the instrument moistened into her hand, and with the other touches the tongue. The patient then screams out violently, and thus convinces herself and friends that she has *not* lost her voice.—*Ibid.*

VAGINISMUS.—Dr. Tilt protests against the necessity of using the knife or scissors in this comparatively common condition. He places the patient under chloroform, separates the two thumbs which are back to back in the vagina, and keeps the vagina distended for five minutes. He then introduces a large metal bougie, and keeps it in a T bandage for several days.—*Ibid.*

TO CORRESPONDENTS.—Communications accepted:—Homicides by Chloroform—Medical Education—Collegiate Agency—Exophthalmos—Contributions to Uterine Surgery.

BOOKS AND PAMPHLETS RECEIVED.—A Physician's Problems. By Charles Elam, M.D., M.R.C.P. Boston: Fields, Osgood & Co. 12mo. Pp. 400.—Plastic Operations. A paper read before the New York Academy of Medicine, February 18, 1869. Pp. 8.—Report of the Committee on the Result of Consanguineous Marriages. By Robert Newman, M.D., of New York. Presented to the New York State Medical Society at its Annual Session, February, 1869. Pp. 24.—A Prize Essay on the Medical Activity of the Hemp Plant of North America. By Dr. Horatio C. Wood, Jr., Professor of Botany, University of Pennsylvania. Pp. 8.—Report of the Committee on the Relations of Alcohol to Medicine. By John Bell, M.D., Chairman. Extracted from the Transactions of the American Medical Association. Pp. 120.—First Annual Report of the Children's Hospital, Boston, from its opening, July 19, to Dec. 28, 1869, together with the By-Laws of the Corporation. Pp. 34.—Full-length Portrait of Prof. S. D. Gross, of Philadelphia. From Medical and Surgical Reporter Office.

MARRIED,—At Milford, N. H., 18th inst., L. F. Warner, M.D., of Boston, to Miss Mary M. Gilles, of Circleville, Ohio.

DIED,—At Wilmington, Del., 7th inst., Surgeon Solomon Sharp, U.S.N., in the 64th year of his age.

Deaths in seventeen Cities and Towns of Massachusetts for the week ending Jan. 22, 1870.

Cities and towns.	Number of deaths in each place.	Prevalent Diseases. Consumption.	Pneumonia.	Typh. Fever.	Scarlet Fever.
Boston	93	10	8	3	5
Worcester	13	2	1	1	2
Lowell	20	0	1	2	0
Milford	3	2	0	0	0
Cambridge	18	3	2	0	1
Salem	8	3	1	0	0
Lawrence	12	2	0	0	0
New Bedford	8	1	0	0	0
Springfield	4	1	0	0	0
Lynn	15	2	1	1	0
Pittsfield	5	0	0	0	0
Gloucester	7	0	0	2	0
Fitchburg	2	0	1	0	0
Taunton	6	1	1	0	1
Newburyport	3	0	0	0	0
Fall River	10	1	0	2	0
Haverhill	2	0	0	0	0
	229	28	16	11	9

Cambridge reports four deaths from diphtheria and croup; Lowell four from measles.

GEORGE DERBY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending January 22, 93. Males, 48—Females, 45.—Abscess, 1—accident, 1—asthma, 1—congestion of the brain, 2—disease of the brain, 3—bronchitis, 6—burns, 1—cancer, 2—cholera infantum, 1—consumption, 11—convulsions, 1—croup, 2—debility, 5—diarrhœa, 3—diphtheria, 3—dropsy of the brain, 2—erysipelas, 1—scarlet fever, 5—typhoid fever, 3—gastritis, 1—hæmorrhage, 1—disease of the heart, 6—intemperance, 1—congestion of the lungs, 6—inflammation of the lungs, 8—marasmus, 2—measles, 1—old age, 6—pelvic cellulitis, 1—pleurisy, 1—smallpox, 1—syphilis, 1—tympanites, 1—unknown, 3.

Under 5 years of age, 46—between 5 and 20 years, 3—between 20 and 40 years, 12—between 40 and 60 years, 17—above 60 years, 15. Born in the United States, 64—Ireland, 22—other places, 7.